The following listing of claims replaces all prior versions and listings of claims in this application.

LISTING OF CLAIMS:

1-104. (Canceled)

105. (New) A structural laminate member comprising:

a first metal layer having a first inner surface and a first outer surface;

a second metal layer having a second inner surface and a second outer surface, the second metal layer being spaced apart from the first metal layer; and

an intermediate layer including a plastic material having a modulus of elasticity of at least 200 MPa, the plastic material located between and adhered to said first and second inner surfaces,

wherein:

local buckling of the individual layers of the structural laminate member is prevented,

the structural laminate member has a flexural strength greater than the flexural strength of a single metal layer with a thickness equal to the combined thicknesses of the first and second metal layers,

under load, energy is absorbed by the structural laminate member by one or more of strain dissipation, puncture resistance, and inelastic membrane action of the laminate member, and

a crack formed in one of the first and second metal layers is prevented from propagating to the other of said first and second metal layers.

106. (New) A structural laminate member according to claim 105, wherein said plastic material is unfoamed.

107. (New) A structural laminate member according to claim 105, wherein said plastic material includes an elastomer.

108. (New) A structural laminate member according to claim 107, wherein said elastomer includes a polyurethane.

109. (New) A structural laminate member according to claim 105, wherein each of said first and second metal layers has a thickness in a range of 0.2 mm to 30 mm.

110. (New) A structural laminate member according to claim 105, wherein said plastic material has a tensile strength in a range of 5 MPa to 75 MPa.

111. (New) A structural laminate member according to claim 105, wherein said plastic material has a minimum elongation of about 20% at -45°C.

112. (New) A structural laminate member according to claim 105, wherein said plastic material has an elongation in a range of 20% to 800%.

113. (New) A structural laminate member according to claim 105, wherein said plastic material has a minimum bond strength of 0.1 MPa over an operating temperature range of -45°C to 100°C.

114. (New) A structural laminate member according to claim 105, wherein said intermediate layer comprises a void form including a rigid foam form.

115. (New) A structural laminate member according to claim 105, wherein said intermediate layer comprises a void form including a material that is compatible with the plastic material.

116. (New) A structural laminate member according to claim 105, wherein said plastic material has a sufficient bond strength so that said metal layers achieve full plastic moment capacity and shear strength without requiring welding.

117. (New) A structural laminate member according to claim 105, wherein said plastic material is comprised of a non-reinforced thermoset polyurethane elastomer.

118. (New) A structural laminate member according to claim 105, wherein each of said first and second metal layers has a thickness of at least 2.5 mm.

119. (New) A structural laminate member according to claim 105, wherein said plastic material has air entrainment between 3% and 7%.

120. (New) A structural laminate member comprising:

a first metal layer having a first inner surface and a first outer surface;

a second metal layer having a second inner surface and a second outer surface, the second metal layer being spaced apart from the said first metal layer; and

an intermediate layer including a plastic material located between and adhered to said first and second inner surfaces, wherein said plastic material has:

a modulus of elasticity of at least 200 MPa,

a tensile strength in a range of 5 MPa to 75 MPa,

a minimum elongation of about 20% at -45°C,

an elongation in a range of 20% to 800%, and

a minimum bond strength of 0.1 MPa over an operating temperature range of -45°C to 100°C.

121. (New) A structural laminate member according to claim 120, wherein said plastic material is unfoamed.

122. (New) A structural laminate member according to claim 120, wherein said plastic material includes an elastomer.

123. (New) A structural laminate member according to claim 122, wherein said elastomer includes a polyurethane.

124. (New) A structural laminate member according to claim 120, wherein each of said first and second metal layers has a thickness in a range of 0.2 mm to 30 mm.

125. (New) A structural laminate member according to claim 120, wherein said intermediate layer comprises a void form including a rigid foam form.

126. (New) A structural laminate member according to claim 120, wherein said intermediate layer comprises a void form including a material that is compatible with the plastic material.

127. (New) A structural laminate member according to claim 120, wherein said plastic material has a sufficient bond strength so that said metal layers achieve full plastic moment capacity and shear strength without requiring welding.

128. (New) A structural laminate member according to claim 120, wherein said plastic material is comprised of a non-reinforced thermoset polyurethane elastomer.

129. (New) A structural laminate member according to claim 120, wherein each of said first and second metal layers has a thickness of at least 2.5 mm.

130. (New) A structural laminate member according to claim 120, wherein said plastic material has air entrainment between 3% and 7%.

131. (New) A method of making a structural laminate comprising:

positioning a first metal layer and a second metal layer in a spaced apart relationship such that a core cavity is formed between facing surfaces of the first and second metal layers, each of the first and second metal layers having a thickness in a range from 0.2 mm to 30 mm;

providing an uncured plastic material to said core cavity; and

curing the uncured plastic material such that the plastic material adheres to the facing surfaces of the first and second metal layers,

wherein said plastic material has:

a modulus of elasticity of at least 200 MPa,

a tensile strength in a range of 5 MPa to 75 MPa,

a minimum elongation of about 20% at -45°C,

an elongation in a range of 20% to 800%, and

a minimum bond strength of 0.1 MPa over an operating temperature range of -45°C to 100°C.

132. (New) A method according to claim 131, wherein each of the first and second metal layers has a thickness of at least 2.5 mm.

133. (New) A method according to claim 131, wherein said positioning includes placing a spacer between the first metal layer and the second metal layer.

134. (New) A method according to claim 133 comprising attaching the spacer to at least one of the first and second metal layers.

135. (New) A method according to claim 134, wherein the spacer is attached by welding.

136. (New) A method according to claim 134, wherein the spacer is attached by adhering.

137. (New) A method according to claim 133, wherein the spacer is metal.

138. (New) A method according to claim 133, wherein the spacer is plastic.

139. (New) A method according to claim 131, wherein the core cavity has an open end and the uncured plastic is provided to the core cavity through the open end.

140. (New) A method according to claim 131 comprising providing an aperture through at least one of the first and second metal layers, and wherein the uncured plastic is provided to the core cavity through the aperture.

141. (New) A method according to claim 140 comprising sealing the aperture.

142. (New) A method according to claim 131, wherein at least one of the first and second metal plates includes a portion adapted to be welded, the portion adapted to be welded defining a weld margin in a part of the core cavity adjacent to the portion adapted to be welded.